AMENDMENTS TO THE CLAIMS

Claims 1, 9, 17 and 24 are being amended. All pending claims are reproduced below, including those that remain unchanged.

1. (Currently Amended) A job management apparatus for use in a batch job execution system including a plurality of service providers in communication with the job management apparatus, the apparatus comprising:

a client communications part which receives a batch job from a client; an extracting part which extracts one or more task from the batch job; and,

an assigning part which receives a request work signal from each of the plurality of service providers that is available to perform work for the batch job execution system, each request work signal informing the assigning part of one or more function or service that the service provider can perform;

wherein the assigning part delegates each task to one of the service providers that can perform the function or service required to perform the task; and

wherein the assigning part sends an idle assignment signal to each service provider from which the request work signal is received but for which there is not a task available from the job management apparatus, the idle assignment signal informing the service provider to not send further request work signals to the assigning part until the service provider receives a work available signal from the assigning part, thereby freeing up resources of each service provider for which there is not a task available from the job management apparatus to perform other tasks not delegated by the job management apparatus.

- 2. (Original): The job management apparatus of claim 1, wherein the plurality of service providers are operating on a plurality of machines.
- 3. (Canceled):

4. (Previously Presented): The job management apparatus of claim 1, further comprising at least one contact part which receives a status report signal from the service

providers, which updates the status of the task being performed by the service provider.

5. (Previously Presented): The job management apparatus of claim 4, wherein the

work request signal specifies a minimum frequency at which the status report signal will

be sent to the contact part.

6. (Previously Presented): The job management apparatus of claim 4, wherein the

status report signal informs the contact part of completion of the task.

7. (Original): The job management apparatus of claim 1, further being in

communication with a job database which stores the batch job upon receipt from the

client; and

the job database being regularly updated as jobs are executed by batch job

execution system.

8. (Original): The job management apparatus of claim 7, further comprising a

retrieving part which retrieves the batch job from the job database when the batch job is

to be executed.

9. (Currently Amended): A batch job execution system for communicating with at

least one client, comprising:

a job management apparatus in communication with the clients which receives a

batch job from a client, extracts a task from the batch job, and assigns the task;

a job database in communication with the job management apparatus which stores

the batch job;

a plurality of service providers in communication with the job management

apparatus which receive the assigned task, perform the task, and return a result to the job

management apparatus; and,

a plurality of provider managers, each in communication with the job

management apparatus and in communication with a corresponding subset of the

plurality of service providers which monitors the tasks being performed on the service

providers and provides status information to the job management apparatus, wherein at

least one said subset of the plurality of service providers includes multiple service

providers.

10. (Previously Presented): The batch job execution system of claim 9, wherein a

said provider manager in response to a request to increase capacity from the job

management apparatus assigns additional service providers to receive tasks from the job

management apparatus.

11. (Previously Presented): The batch job execution system of claim 9, wherein if a

said service provider fails to complete its assigned task within a predetermined time, the

corresponding provider manager communicates with the service provider, and informs

the job management apparatus of the task status in response to the communication with

the service provider.

12. (Previously Presented): The batch job execution system of claim 9, wherein a

said provider manager informs the service provider performing the task to terminate

performance of the task in response to a signal received from said job management

apparatus.

13.-16. (Canceled)

17. (Currently Amended) A computer implemented method for preparing and

executing a batch job by a batch job execution system, comprising the steps of:

submitting a batch job with processing parameters to a job management

apparatus;

storing the batch job in a job database;

receiving a work request signal from each of a plurality of service providers that is available to perform work for the batch job execution system, each work request signal

informing the job management apparatus of one or more function or service that the

service provider can perform;

determining whether the batch job execution system is able to process the batch

job;

extracting at least one task from the batch job;

delegating each task to one of the service providers that can perform the function

or service required to perform the task; and

sending an idle assignment signal to each service provider from which the request

work signal is received but for which there is not a task available from the job

management apparatus, the idle assignment signal informing the service provider to not

send further request work signals to the job management apparatus until the service

provider receives a work available signal from the job management apparatus, thereby

freeing up resources of each service provider for which there is not a task available from

the job management apparatus to perform other tasks not delegated by the job

management apparatus; and

sending a work available signal to each service provider that was previously sent

the idle assignment signal but for which a task is available from the job management

apparatus.

18. (Original): The method of claim 17, further comprising the step of retrieving the

batch job from the batch job database prior to the step of extracting at least one task.

19. (Original): The method of claim 17, wherein the step of delegating further

comprises delegating a plurality of tasks to the plurality of service providers to be

performed in parallel.

20. (Previously Presented): The method of claim 17, wherein the step of performing,

further includes receiving a status report signal from the service provider performing the

task which updates the status of the task being performed.

21. (Previously Presented): The method of claim 17, further comprising determining whether the batch job execution system is able to process the batch job; wherein the step of determining further includes assigning additional service providers to perform tasks for the job management apparatus if it is determined that the batch job execution system

is unable to process the job.

22. (Original): The method of claim 17, further comprising the steps of:

communicating with the service provider performing the task after a predetermined time;

informing the job management apparatus of the tasks status; and,

the job management apparatus determining whether to re-assign the task or wait for task completion in response to the step of updating the task status.

23. (Original): The method of claim 17, further comprising the step of terminating the step of performing the task in response to receiving a signal from the job management apparatus, prior to the step of completing the task.

24. (Currently Amended) An article of manufacture including an information storage medium wherein is stored information comprising;

a client communications software component which receives a batch job from a client;

an extracting software component which extracts one or more task from the batch job; and,

an assigning software component which receives a request work signal from each of a plurality of service providers that is available to perform work, each request work signal informing the assigning part of the function or service that the service provider performs;

wherein the assigning software component delegates each task to one of the service providers that can perform the function or service required to perform the task; and

wherein the assigning software component sends an idle assignment signal to

each service provider that sent a request work signal but for which there is not a task

available from the assigning software component, the idle assignment signal instructing

the service provider to not send further request work signals until the service provider

receives a work available signal from the assigning software component, thereby freeing

up resources of each service provider for which there is not a task available from the

assigning software component to perform other tasks not delegated by the assigning

software component.

25. (Original): The article of manufacture of claim 24, wherein the assigning

software component monitors which service providers are able to perform a task.

26. (Previously Presented): The article of manufacture of claim 24, further

comprising a contact software component which receives a status report signal from the

plurality of service providers which informs the contact software component of the status

of the task being performed.

27. (Currently Amended): The article of manufacture of claim 26, wherein the work

request signal specifies a minimum frequency at which the status report signal will be

sent to the contact software component.

28. (Original): The article of manufacture of claim 24, further comprising a job

database software component which stores the batch job upon receipt from the client,

wherein the client communications software component is in communication with the job

database software component.

29. (Original): The article of manufacture of claim 28, further comprising a

retrieving software component which retrieves the batch job from the job database

software component when the batch job is to be executed.

30. (Original): The article of manufacture of claim 24, further comprising at least one provider manager software component in communication with the plurality of service providers which monitors the tasks being performed on the service providers and provides status information to the job management software component.